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GEOCHEMICAL AND ISOTOPIC (ND, SR) EVIDENCES FOR A NEOPROTEROZOIC JUVENILE COMPONENT IN METASEDIMENTS FROM ALLOCHTONOUS TERRANES IN THE SOUTHERN BRASILIA BELT, BRASIL

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At the age of their main metamorphic overprint (625 Ma), high-grade metagreywackes and metapelites from allochtonous terranes south of the São Francisco Craton (SE Brazil) exhibit a wide range of eNd (+0.5 to -15) and 87Sr/86Sr (0,705-0,730).A Neoproterozoic juvenile component can be identified in metagreywackes from three of these terranes: Andrelândia (Grt-Bt-Pl gneisses; eNd625 » 0; 87Sr/86Sr625 = 0,705-0,707), Varginha (Ky-Grt-Pl gneisses; eNd625 = -1 to -5; 87Sr/86Sr625 = 0,705-0,710) and Socorro-Guaxupé ((Crd)-Sil-Grt-Bt-Pl gneisses; eNd625 = 0 to -7; 87Sr/86Sr625 = 0,705-0,712). An active-margin geochemical signature is shown by their low K/Na, Th/Sc and La/Yb ratios.Ky-bearing K-feldspar gneisses from the same regions, some interlayered with the metagreywackes, have chemical signatures of passive-margin metapelites (high K/Na, Th/Sc and/or La/Yb) and much lower eNd625 (-10 to -13) and higher 87Sr/86Sr625 (0,714-0,728), indicative that both old (distal) and juvenile (proximal) sources were simultaneously feeding these portions of the basin.Metagreywackes from the southern portions of these terranes (Amparo and Atibaia regions) have isotope signatures indicative of old sources (eNd625 = -8 to -15; 87Sr/86Sr625 = 0,712-0,728); more primitive values found in pelitic gneisses suggest that these areas were in a more distal position relative to the juvenile sources.Best estimates for the ages of most sediments are in the 0.8-0.9 Ga range, making island-arc terranes equivalent to those from south Goiás the most probable sources of the juvenile component.

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